



402281

January 7, 2004

RE: LEAD SMELTER SITES INITIATIVE
CUYAHOGA COUNTY

CERTIFIED MAIL

Cuyahoga Metropolitan Housing Authority
1441 West 25th Street
Cleveland, Ohio 44113

Dear Sir/Madam:

Enclosed is information on the former Mowery Metal Co. (also known as the LeRoy D. Mowery Metal Co.), located at 6950 Kinsman Road, SE (currently the Garden Valley Estates), Cleveland, Ohio. The information was collected by Ohio EPA's Division of Emergency and Remedial Response (DERR) in 2003 as part of an initiative undertaken by U.S. EPA on locations identified as former secondary lead smelter sites in the Cleveland area.

Briefly, Ohio EPA evaluated the environmental history, and conducted limited sampling, to evaluate whether the site should be recommended for further investigation. Based on the data collected, the Agency does not consider that the Site poses a risk above acceptable levels to human health and the environment. Therefore, unless additional data is brought to the Agency's attention, Ohio EPA is recommending that U.S. EPA not undertake any further remedial activities at the site.

The complete information package generated by DERR is enclosed. If you have any questions, please feel free to contact me at 330-963-1218.

Sincerely,

Rod Beals , Manager
Division of Emergency & Remedial Response

SA:RB/kss

enclosure

ec: Sheila Abraham, Site Assessment Coordinator, Ohio EPA, DERR/NEDO
Ed Link, Site Investigation Field Unit, Ohio EPA, CO
Laura Ripley, U.S. EPA Region V Early Action Manager
Tiffani Robinson, Site Assessment Brownfields Revitalization Manager, Ohio EPA, CO
Jeff Wander, Site Investigation Field Unit, Ohio EPA, CO

PRE-CERCLIS SCREENING (PCS) ASSESSMENT CHECKLIST/DECISION FORM

The checklist can be used to assist the site investigator during Pre-CERCLIS screening. This checklist should document the rationale for the decision as to whether further steps in the site investigation process are required under CERCLA. Use additional sheets, if necessary.

Checklist Preparer: **Edward Link, Environmental Specialist 2**
Name/Title

September 25, 2003
Date

Ohio Environmental Protection Agency, Div. of Emergency & Remedial Response
4675 Homer-Ohio Lane Groveport, OH
Address

614-836-8760
Phone

ed.link@epa.state.oh.us
E-mail Address

Site Name: **Mowery Metal Co.**

Previous names (if any): **The LeRoy D. Mowery Metal Co.**

Site Location: **6950 Kinsman Road, SE; Cleveland, Ohio; 44104-3933**
(See attached description and maps).

Latitude: (if applicable) **41° 28' 50.25720" North**

Longitude: **081° 38' 09.40200 West**

PHASE A - CERCLA Eligibility Evaluation

If the answer to any one of these is yes, the sites can be NFRAPed or Archived		YES	NO
1. Is the site non-existent, or is it not a duplicate (or "alias") of another site?			X
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?			X
3. Are the hazardous substances potentially released at the site excluded statutorily (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC< UMTRCA, or OSHA)?			X
4. Are the hazardous substances potentially released at the site excluded by policy considerations (e.g., deferred to RCRA Corrective Action, FIFRA, or Brownfields)?			X
5. Is there insufficient data (provided by the State) to verify that a release has occurred (e.g., based on potentially unreliable sources or with no information to support the presence of hazardous substances or CERCLA eligible pollutants and contaminants)?			X
6. Is there sufficient documentation that clearly demonstrates that there is no potential for a release that could cause adverse environmental or human health impacts (e.g., comprehensive remedial investigation equivalent data showing no release above ARARS, completed removal action, previous HRS score determined, or an EPA approved risk assessment completed)?	X		

PHASE B - INITIAL SITE EVALUATION

Use Exhibit A to make site assessment decisions based on the answers below:	YES	NO
Is there documentation indicating that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		X
Is there an apparent release at the site with no documentation of exposed targets, but there are targets on-site or immediately adjacent to the site?		X
Is there an apparent release and no documented on-site targets, but there are nearby targets (e.g., targets within 1 mile)?	X	
Is there indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on-site or in proximity to the site?	X	
Documented on-site or nearby targets?	X	
Uncontained sources containing CERCLA eligible substances are present on site.		
There are releases or potential to release.	X	

Please explain all yes answer(s). See Attached Narrative of Exhibit A

EPA Regional Review and Site Assessment Decision

Check the box(es) that apply:

XXX ☐ NFRAP/Archive – Do Not Enter Into CERCLIS - Not a Valid Site or Incident

- ☐ APA
☐ Full PA
☐ Combined PA/SI
☐ SI

Defer/Refer to:

- ☐ Removal Program
☐ State/Tribal Program
☐ RCRA
☐ Brownfields
☐ Other: _____

Regional EPA Reviewer:

LAURA RIPLEY Laura Ripley
Print Name / Signature

9/30/2003
Date

EXHIBIT A

Introduction

In the spring of 2001, the American Public Health Journal published a report on former lead smelting facilities that are potentially contaminated with high levels of lead (APHJ, 2001). The study, which was conducted by William P. Eckel, a doctoral candidate and a current USEPA employee. He cited 430 former, secondary lead smelting facilities in 35 states that are unknown to federal and state authorities. It divided the smelters into two types: "Battery Lead Smelters"; or, "Babbitt Metal & Solder Smelters and/or Manufacturers". Of the smelters listed, 17 sites are located in Ohio. This PCS focuses on one of the nine sites in the Cleveland area, Mowery Metal Company, "Babbitt Metal & Solder Smelters and/or Manufacturers". Eckel discovered Mowery Metal Co. was mentioned in the 1950 Standard Metal Directory, a national directory of the metals industries.

Site Description

The former Mowery Metal Co. was located at 6950 Kinsman Road, SE; Cleveland, Ohio 44104-3933 in Cuyahoga County. See **Figure One, Site Location Map** (USGS topo), and, also, see **Figure Two, 2002 Color Air Photo**. The air photo demonstrates the current site conditions. Based on this address and on a site reconnaissance in December 17, 2002, the lead smelter activities at the Mowery Metal Co. site no longer exist. Aerial photography, historical information and the real estate & tax records also collaborate this assertion. The original building was demolished and is now the Garden Valley Estates of the Cleveland Metropolitan Housing Authority complex of apartments. The original property was transferred in 1956 to the Housing Authority. The original parcel number for 6950 Kinsman is unknown. Evidently, this parcel and those on the block (Sidaway to Kinsman to E. 71st.St.) were conglomerated into a larger, 5.27-acre parcel. The housing project on the block is listed under Parcel # 12518001 for 6942 Kinsman. (CCAO, 2003). Per www.yahoo.com, the current resident for 6950 Kinsman is James R. Brown, apparently the renter (Yahoo, 2003). Per the December 17, 2002 reconnaissance, the housing building at this address approximates the original Mowery Metal Co. Location. The Cleveland Building & Housing office is located at 601 Lakeside Ave E # 320, Cleveland, OH 44114; Phone: (216) 664-2282. According to the GIS web-page map for the Cleveland City Planning Commission, this property is zoned as "Multi-Family" use (CCPC, 2003).

North of the Mowery Metal Co. site are and have been houses and/or apartments. East of the former site location are more Housing Authority apartments, then E. 71st Street. South of the site are more apartments; then, a steep, wooded ravine. West of the site are more apartments; Sidaway Ave., SE; then, more older houses and/or apartments. See **Attachment One, Photographic Log**.

Cuyahoga County is located in north-eastern Ohio on Lake Erie. Cleveland is the county seat and is among the largest cities in Ohio. The Census Bureau's 1990 population total for the city of Cleveland is 505,616; the 1990 population of the entire county is 1,412,140. (ODNR-DOW, 1994.)

The climate of Cuyahoga County is typical of the temperate mid-continent region; the average temperature in winter and in summer are 29 degrees F, and 70 degrees (USDA, 1980), respectively; and, average annual precipitation is 35.40 inches (ODNR-DOW, 1994).

Site History

Available historic information for the site includes: 1876 Cleveland City street map (Robison, etc., 1876.); 1896, 1912-1913 & 1951 Sanborn insurance maps (Sanborn, various years); the 1903 USGS topo map (USGS, 1903); the Cleveland City Directories from 1837-8 thru 1974 (CDC, various years); aerial photos

from 1950 thru 2002 (ODOT, various years and Mapquest, 2002); and, the Cuyahoga County Auditors Office (CCAO, 2002). For a more detailed history of this property and site, see **Attachment Two, Mowery Metal Co. Site History**. The information in **Attachment Two** is listed as it appears chronologically in the aforementioned historical references. The first and last known records of this lead smelter (in any source) were from 1927 to 1956, respectively; which are assumed to be its years of operation.

The oldest known information for the site area is a 1876 Cleveland City street map. On this map, Kinsman Road exists; and, Sidaway Ave., SE is still called "Brookside Ave.". (Robison, etc., 1876.)

The 1896 Sanborn Fire Insurance Map shows that the site location to be a vacant lot. The street address in 1896 for this lot was not marked, but can be inferred to be 384 or 386 Kinsman Road. Sidaway Ave., SE is still called "Brookside Ave.". [Please note that a search of all available Sanborn maps revealed no "Mowery Metals" nor "Mowery" (Sanborn, 1896.)

Though not named on the map, the 1903 USGS topo map shows that there are streets where Kinsman Road, Brookside (Sidaway) Ave. and Berwick Road, SE are located. This topo show all three streets filled with buildings. (USGS, 1903.)

The 1913 Sanborn Fire Insurance Map shows one building present on the site property; and offers a little detail of the former site conditions. (See **Figure Three, Sanborn Maps**.) The address has changed from 384 or 386 Kinsman Rd. to 6950 Kinsman Rd., confirming Eckel's site address. This building is a long, narrow, one-story, cinder-block building; extending through the block from Kinsman Rd. to Berwick Rd. The building covers almost all of the property; and, its dimensions were roughly 150 feet long by 24 feet wide by 150 feet wide. This building had a firewall with a wide doorway in the middle; the Kinsman "half" of the building is referenced as "machine shop". The Berwick "half" had a "16 hp (horsepower) gas eng. (engine)". It is surrounded by smaller residential buildings. There is no mention of Mowery Metals. Brookside Ave. was renamed to the current name of Sidaway Ave., SE.; Burlington Ave. (proposed) was renamed to the current name of East 69th Street. (Sanborn, 1913.)

The 1928 Cleveland City Directory references that Mowery Metal Co. was founded in 1927. The 1948 Standard Metal Directory lists Mowery Metal Co. as "Babbitt & Solder Manufacturers". Mowery Metal ceased operations between 1956 and 1958. (CDC, 1928, 1956 & 1958; and, SMD, 1948.)

The 1951 & 1952 Sanborn Fire Insurance Maps are identical to the 1913 Sanborn map, indicating that the building has changed little. The only difference is that the building has an additional street address of 6929 Berwick Road. Since the 1951 map has more clarity; it was enlarged and included as **Figure Three**. The 1952 Sanborn does not list the "16 hp gas eng." (Sanborn, 1951 & 1952).

Air photos from 1949 and 1950 of the site (see **Figure Four, 1949 Air Photo**) show a building that is the same pattern as in **Figure Three** (ODOT, 1950).

Air photos from 1986 and 1989 of the site are drastically different from the 1950 photo. All of the former commercial and residential buildings in a three-block area south of Kinsman and east of Sidaway (including Mowery Metals Co.) have been demolished and replaced with a Cleveland Metropolitan Housing Authority apartment project. Berwick Rd. no longer exists between Sidaway and E. 71st Street. (ODOT, 1986 and GLMM, 1989.)

The Cuyahoga County Auditor's record states that the property was transferred on August 23, 1956 to the government (Cleveland Metropolitan Housing Authority). Thus, the dates of operation for Mowery Metals are verified from 1927 through 1956.

See **Attachment Two** for other detailed information.

Mowery Metal Co.
September 25, 2003

PCS Narrative
Page 5

Soil Exposure Pathway and Targets

According to the USDA Cuyahoga County Soil Survey, the soil around and under the site is the Urban Land-Mitiwanga Association. This soil Association is described as: "Urban Land-Mitiwanga association: Urban land and moderately deep, nearly level and gently sloping, somewhat poorly drained soils that formed in loamy glacial till; on uplands and lake plains." (USDA, 1980.)

This is the main pathway of concern posed by the Mowery Metals Co. site to the environment and human health. The nearest residential areas is on-site and completely surrounding it. There is an apartment building with sidewalks and vegetated areas now cover the former site. Based on the number of roof vents, the two-apartment building has twelve roof vents, indicating at least 24 people reside atop the former site. There are no known, on-site workers at 6950 Kinsman Road, but the grounds are mowed and appear to be regularly maintained. There is a fence along Kinsman Rd. only; and, it has several openings. It is unknown if the soil on, under and/or around the original building was removed, pushed around and/or covered over. The current surface of the former site is easily accessible by residents and/or the general public. In some areas, the grass cover over the soil is sparse or non-existent. (Ohio EPA-DERR, 2002.)

Concerning nearby targets, one school is about a half mile southeast of the site; and, a hospital is about a mile southwest of the site. There are no known on-site nor adjacent, terrestrial sensitive environments. See Attachment Three, Population Information map & its attached table. (Ohio EPA-GIS, 2003.)

Surface Water Pathway and Targets

The entire county is drained principally by the Cuyahoga, the Chagrin, and the Rocky Rivers and their tributaries into Lake Erie. Any surface water runoff from the site would flow north to the city storm sewers; and/or, southwest through the housing complex, then for 800 feet down into a ravine to the Kingsbury Run streambed. Kingsbury Run is an intermittent stream; which flows north then west for about 2.15 miles to join the Cuyahoga River. The river meanders for about 3.8 miles into Lake Erie. (USGS, 1980.)

Five community, public water supplies (PWSs) utilize Lake Erie as a surface water source with a fifteen-mile radius of the site; four Cleveland PWSs and one Berea PWS. (See Attachment Four, Public Water Supply map & its attached table.) These five PWSs serve 1,321,482 people. The nearest of these is 7.4419 miles from the site. An additional four PWSs purchase water from the aforementioned PWSs and serve 162,096 people. (Ohio EPA-GIS, 2002.)

According to Attachment Five, Natural Heritage Data map & its attached table, there are 51 aquatic and terrestrial sensitive environments within a fifteen-miles radius of the site. (Ohio EPA-GIS, 2002.)

Based on this distance and no perennial stream connection to the targets, the site is not suspected to impact the PWSs nor the sensitive environments. However, these PWSs and sensitive environments are within the 15-mile-downstream, target distance limit.

Ground Water Pathway and Targets

Cuyahoga County is in parts of two physiographic provinces: the glaciated Allegheny Plateau (Southern New York section) of the Appalachian Plateaus Province on the south and east; and, the Eastern Lake & Till Plains sections of the Central Lowland Province on the west and north. The line of demarcation between the two provinces is the Portage Escarpment, which crosses the county diagonally in approximately a northeast-southwest line. (USDA, 1980)

Nearly all of Cuyahoga County is mantled by material of glacial or glacially related origin. Till (Wisconsinan age) is the most abundant glacial deposit in the county. Till, by definition, is deposited directly by glacial ice and is typically a poorly sorted mixture of clay, silt, sand, and gravel. (ODNR-DOW,

directly by glacial ice and is typically a poorly sorted mixture of clay, silt, sand, and gravel. (ODNR--DOW, 1994.) The bedrock underlying the glacial deposits is sandstone and shale. (USDA, 1980)

The hydrogeologic setting beneath the site was described by the 1994 ODNR Ground Water Pollution Potential of Cuyahoga County, Ohio as a buried valley aquifer. "It is characterized by thick deposits of sand and gravel that have been deposited in a former topographic low (a pre-glacial or inter-glacial river valley) by glacial melt waters. These deposits are capable of yielding large quantities of ground water. The deposits may or may not underlie a present-day stream and may or may not be in direct hydraulic connection with a stream. Glacial till or recent alluvium often overlies the buried valley. The sand and gravel deposits are several times more permeable than the surrounding bedrock and till. Soils are highly variable ranging from clay loam to sand, but are typically a silty loam. Static water levels are typically shallow, but may be highly variable depending on surficial deposits. Recharge to the aquifer can be attributed to infiltration of precipitation, and regional ground-water flow from the surrounding till plains and bedrock." (ODNR--DOW, 1994.)

There are no known, private, residential drinking water wells within a mile of the site. Based on a 1991 ODNR Well Log #717891, the nearest known well to the 2651 E. 75th St. site is a monitoring well located approximately 2500 feet northeast of the site. This well is at the Model Box Co. at 2545 79th Street, about halfway between Woodland & Platt Avenues. The stratigraphy for their well demonstrates subsurface glacial material (sand) above a shallow bedrock (siltstone). For the 1994 Pollution Potential map and report to be correct, the bedrock (siltstone) must get deeper, between this well and under the site. (ODNR, Well Log, 1991 and ODNR--DOW, 1994.)

- 00 - 01' = Concrete
- 01 - 03' = DGR (dark grey) Silty Sand
- 03 - 07' = DGR (grey) Silty Sand
- 07 - 20' = LGR (light grey) Siltstone
- Static Water level = 9 feet
- Depth of casing = 20 feet
- Pumping rate = N.A.
- Casing diameter = 2 inches

Based on a 1942 ODNR Well Log #9918014, another nearby, known well log was for an industrial and/or drinking water well of the former PA RR (Pennsylvania Railroad) Company. Evidently, a former roundhouse near Kinsman Road used the well; approximately 4500 feet southeast of the site. The stratigraphy for their well demonstrates subsurface glacial material (sand) above a shallow bedrock (siltstone). For the 1994 Pollution Potential map and report to be correct, the bedrock (siltstone) must get deeper, between this well and under the site. (Sanborn, 1915; ODNR--Well Log, 1942; and ODNR--DOW, 1994.)

- 0 - 15' = Fill material
- 15 - 15' = Sandy Clay
- 15 - 41' = Shale
- Static Water level = N.A.
- Depth of casing = N.A.
- Pumping rate = N.A.
- Casing diameter = N.A.

Due to the presence of Lake Erie as an abundant, dependable water source, there are no ground water targets. No known, public water supplies (community nor non-community), utilizing ground water, are located within four miles of the site. (See **Attachment Four** map & its attached table.) (Ohio EPA--GIS, 2002.)

Air Pathway and Targets

Based on GIS information, 277,321 total people live within a four-mile radius of the site. Of these, 12,556 people and 742 people reside within a one-mile radius and a quarter-mile radius, respectively, of the site. Since there is a vegetative cover on the former site surface, it does not present an airborne particulate hazard. (Ohio EPA-GIS, 2002.)

There are no known on-site aquatic and/or terrestrial sensitive environments. According to **Attachment Five** map & its attached table, the known sensitive environment within a four-mile radius of the site is located 2.0908 miles west the site. It is a terrestrial sensitive environment -- a State Threatened species - called the Hieracium Canadense (a.k.a. Canada Hawkweed). It is "ID # 1" on the **Attachment Five** map & in its corresponding table. (Ohio EPA-GIS, 2002.)

If the former site contains hazardous wastes, it is not suspected to impact the nearby residents, due to the vegetative cover. However, past airborne deposit of lead from the smelter is a concern. Based on this distance in-between, the site cannot impact the sensitive environments.

Based on field screening sampling results, the surface soil around the former site does not appear to contain hazardous wastes (heavy metals). Also, it does not present an airborne particulate hazard to the on-site residents nor workers, due to the vegetation cover (based on sample results for **MM-03**, **MM-04** and **MM-11**). Past off-site, airborne deposit of lead from this former smelter is a concern for nearby workers and residents, due to their close proximity downwind (based on sample results for **MM-01**, **MM-05**, **MM-09** and **MM-10**). Based on this distance in-between the site and targets, the site cannot impact the sensitive environments. The air gas migration pathway is not of concern at this site, because the hazardous wastes of concern are heavy metals.

SAMPLING & ANALYSES

XRF Sampling Results from December 17, 2002 Reconnaissance

During the December 17, 2002 reconnaissance, three surface soil samples (**MM-1**, **MM-2** and **MM-3**) were collected for X-Ray Fluorescence (XRF) analyses. [These sample were attained without permission from an "open fields" area.] See **Table One, Field Screening Sampling Results -- Surface Soil -- XRF Metals**.

The first sample (**MM-1**) was obtained from a residential area north of Kinsman Rd., near the intersection of E. 71st St. and Falon Street. It was taken from a grass-covered vacant lot. The lead result was 128 ppm there.

The second sample (**MM-2**) was collected in a wooded area south of the intersection of Sidaway and Berwick. It was near the steel suspension bridge and the rim of the ravine; approx. 500 feet from the former site. Its analyses detected lead at 379 ppm.

The third sample (**MM-3**) was taken in a residential area at the southeast end of the housing project, near E. 71st Street. It was taken from an area of barren soil next to an apartment building; approx. 250 feet northwest from the former site. The lead result was 159 ppm there.

XRF Sampling Results from 2003 Field Screening Investigation

To aid in a precursory determination whether or not a lead and/or metals problem exists on and around this former secondary lead smelter, field screening samples were collected and analyzed using X-Ray Fluorescence (XRF) technology. Eleven (11), total, XRF soil samples were collected in the field: three samples during the December 17, 2002 reconnaissance, and eight samples during the June 9-11, 2003 field screening investigation. Based on the preliminary December 17, 2002 analyses, Ohio EPA returned to the site on June 9-10, 2002 for more extensive field screening samples. For both 2002 and 2003 sampling locations and analyses, see **Figure Five, 1995 Air Photo with Sampling Locations**; and, **Table One**.

Only soil samples were collected, because no sediment was nearby or available. These samples were analyzed with a XRF (Spectrace 9000), within a few days after sampling. These results allowed the investigation to focus on possible hot spots and to identify samples sent to a contract laboratory, Kemron Environmental Laboratory of Marietta, Ohio for confirmation analyses.

Permission for on-site access was not sought from the CMHA, because it was an "open field", and a public property [Garden Valley Neighborhood Hse. of the CMHA at 7100 Kinsman Rd, Cleveland, OH 216-271-5480; or Management Office at 7102 Port Ave. (at E. 71st St.) Cleveland, OH; 44104-4118; 216-441-8425.] Access was granted by the Manager of the Garden Valley Club of the Boys & Girls Club at 7100 Kinsman Rd, Cleveland, OH; 44104; 216-271-5480. Also, because they were "open field", permission for access was not sought at the **MM-02/MM-07** bridge; nor, at the Original Harvest Missionary Baptist Church; 7101 Kinsman Rd., Cleveland, OH; 44104; 216-441-9551.

Sample Collection Procedures

Only soil samples were collected, because there was not available sediment. Soil samples were collected using dedicated materials (spoons, pans, bags, etc.) for each sample location; and, the same sample collection procedures, which follow. Samples were collected from the top 3 inches of soil into an 11-inch diameter stainless steel mixing bowl. Samples were collected by placing the mixing bowl, face down at the point of sample collection. Using a stainless steel spoon, the sampler cut down into the soil around the diameter of the bowl, making a discrete sample area. The sampler pulled back the immediate top layer of sod (if present) and shook the loose soil from this section of sod. The sampler collected the top 3 inches of the soil into the mixing bowl. The soil was thoroughly homogenized in the bowl; then packed into labeled, "Zip-lock" plastic bags.

At the Ohio EPA Field Facility in Groveport, Ohio, the XRF operator took an aliquot from the respective plastic bags, for the purposes of conducting sample screening with X-Ray Fluorescence (XRF). The aliquot was dried; pulverized with a rubber mallet; placed in a labeled XRF sample container; analyzed; then, transcribed to a hand-written sheet, which was modified into **Table One**. Based upon these screening results, a minimum of 10% of the total 75 collected samples at eight sites -- or at least one per site -- were sent to Kemron Environmental Laboratory of Marietta, Ohio for confirmatory lab analysis. The XRF was calibrated each time it was used. At least one duplicate sample was analyzed and one background sample were collected, per site. All samples -- both XRF screening and laboratory -- were evaluated for the "RCRA-Eight" metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

Sampling Priorities

Based on the aforementioned two analyses, Ohio EPA returned to the site on June 9-10, 2002 to collect more field screening samples. See **Figure Five** or both previous and proposed sampling locations.

Samples were to be collected in all directions around the sites, if possible. Exact sampling locations and numbers were decided in the field, based on accessibility and practicality. Sample numbers had the prefix "**MM-1, MM-2, etc.**". Our priorities for collecting field screening samples were, if possible:

1. at least three on-site (depending upon access);
2. immediately adjacent to the site;
3. off-site, at nearby or adjoining target areas: urban housing or residential; streams or drainageways; schools, daycare centers or playgrounds; exposed soil; etc.;
4. airborne depositional areas predominantly downwind (northeast, east & southeast) of the site;
5. representative background soil in parks, roadway right-of-ways, open fields, woods, etc., that are predominantly upwind (due west) of the site.

Discussion of Sample Locations & Results

All sample results were compared to the accepted USEPA Region 9 Preliminary Remediation Goals (PRGs) for residential soils; the USEPA Removal Action Levels for Residential and for Commercial /Industrial Values; and, for comparison's sake only, the Ohio EPA--Voluntary action Program (VAP) clean-up standards for Residential and for Commercial /Industrial Land Uses. The PRGs values are considered to be conservative screening values; below which, additional investigation is generally not warranted. They are not cleanup values, although they may conservatively be used as such. (USEPA--PRGs, 2000.)

Around the former Mowery Metals site, all samples were off-site. See **Table One** and **Figure Five**. Nearby, off-site sampling locations around the CMHA apartment complex (**MM-03, MM-04** and **MM-11**) indicated low levels of lead in analyses at 29 ppm to 159 ppm. Elsewhere at off-site sampling locations (**MM-01, MM-05, MM-09** and **MM-10**), lead varied between 42 ppm and 196 ppm. The highest lead levels encountered were 379 ppm at **MM-02**, 812 ppm at **MM-07**, and 358 ppm at **MM-08**. Since it is upwind of the former site, the value at **MM-07** may be partly explainable due to lead paint from the bridge. The **MM-07** results exceeded either the USEPA PRG value for residential soil (lead = 400 ppm); the USEPA Removal Action Levels for Commercial /Industrial Values (lead = 500-1000 ppm); and/or, for comparison's sake only, the Ohio EPA--VAP standard for residential Land Use (lead = 400 ppm).

Several sampling locations **MM-01** (128 ppm), **MM-04** (65 ppm), **MM-06** (44 ppm), **MM-09** (42 ppm), **MM-10** (55 ppm), **MM-11** (28 ppm) and **MM-11 – Dup.** (22 ppm) also indicate background conditions.

Confirmatory Lab Sample Results

Based on the aforementioned XRF screening results, one sample (**K-K-5--LAB**) was selected for lab analyses. **MM-07--LAB** was selected because it was a high lead level for an on-site location. The **MM-07** sample material was transferred from the stored, "Zip-lock" bags into an nine-ounce glass jar and designated as **MM-07--LAB**. The sample was sent to Kemron on August 21, 2003. See **Table One** for results. The **MM-07--LAB** analytical data compared adequately with **MM-07** XRF results. Contrary to **MM-07**, the analytical data for **MM-07--LAB** do not exceed any of the aforementioned, health-based risk standards.

CONCLUSIONS

The site name of "Mowery Metals Co." and the site address of "6950 Kinsman Road" were verified. Based on William Eckel's doctorate dissertation, he used the 1950 Standard Metal Directory to identify it as a "Babbitt metal and solder smelters and/or Manufacturers" (SMD, 1950). From the historical information

gathered, Ohio EPA could only verify the site was a smelter or manufacturer. City Directories concur that Mowery Metals Co. Were "Metal Specialists" and made "Sheet Metal Products". The 1948 Standard Metal Directory lists it as "Babbitt & Solder Manufacturers", which infers lead. (CDC, 1930, 1935 & 1948; and, SMD, 1948.)

The former site building has been removed and the original parcel of property cannot be distinguished. At least 24 people live in the apartment building over the former site. It is unknown if the soil on, under and/or around the original building was removed, pushed around and/or covered. The vegetative cover over the former site could act as a partial protective cap. However, it does not preclude a direct contact threat in areas with barren soil, especially to children playing there. The amount of on-site workers who manage the CMHA apartment complex is unknown. Score of adults and children walk or use the area above the former site.

The 812 ppm of lead at **MM-07** and 379 ppm at **MM-02** near the bridge exceeds the 400 ppm benchmark. This area is of concern; but is upwind of the former site. The presence of the lead there may be explainable to lead paint fragments falling from the bridge. **MM-08** results of 358 ppm lead may be elevated due to past airborne from Mowery; or, from decades of vehicular exhaust after burning leaded gasoline. Sample results closer to the site and/or downwind have lower lead levels than **MM-02**, **MM-07**, and **MM-08**. **MM-07-LAB** did not exceed any benchmarks. The current site conditions do not impact any known ground water or surface water targets. In light of these aforementioned facts, no further site investigation is recommended.

REFERENCES

APHJ, 2001: Journal article entitled "Discovering Unrecognized Lead-Smelting Sites by Historical Methods"; written by William P. Eckel, Michael B. Rabinowitz & Gregory D. Foster; 91:625-627; published in the *American Public Health Journal* in April of 2001 edition; Washington, DC.

CCAO, 2002: Cuyahoga County Auditors Office; telephone conversations; mailed photocopies of plat maps; and, their InterNet web-site(<http://198.30.214.5/auditor/propinfo/default.asp>); Cleveland, Ohio; 2002.

CCPC, 2003: GIS web-page map for the City Planning Commission of the City of Cleveland ; <http://planning.city.cleveland.oh.us/gis/cpc/basemap.jsp>; Cleveland, Ohio, 2003.

CDC, various years: The Cleveland Directory Company by Annwalt, Potter & Annwalt at 518 The Arcade in Cleveland, Ohio from 1837-8 thru 1974; for the cities of Cleveland, Bay Village, Lakewood and East Cleveland; attained from the Archives & Library at Ohio Historical Society; Columbus, Ohio; 2002-3.

Eckel, 2001: Doctoral dissertation by William P. Eckel; completed in the Summer Semester of 2001; College of Arts & Sciences at George Mason University; Washington, DC.

Eckel, 2001: Historic site information provided William P. Eckel from: Metal Smelters & Refiners section of Standard Metal Directory (SMD) directories for 1931, 1940, 1946, 1950 & 1963; Metal Statistics (MS), an annual publication (1937-1969) of The American Metal Market Company, published by Diversified Publishing of New York City, NY; and, the Year Book of the American Bureau of Metal Statistics (and later the Non-Ferrous Metals Data) [ABMS] from the American Bureau of Metal Statistics Inc., 1945-1973, of New York City, NY

Eckel, 2003: Information directly from William "Bill" Eckel; Telephone conversations, mail and/or E-mail between Wendy Vorwerk and/or Edward Link of Ohio EPA; Mr. Eckel (phone #703-305-6451) is currently employed by the USEPA in the Environmental Fate and Effects Division of the Office of Pesticide Programs located on Washington, DC.

Federal Register: Volume 55, Number 241, 40 CFR Part 300; Hazard Ranking System; Final Rule; Washington, D.C.; December 14, 1990.

GLMM, 1989: A circa 1989 air photo of Cleveland; the former G.L.M. Mapping, Inc., an aerial photography company; Lisbon, Ohio; 1989.

Harris, 1997: The 1997 Ohio Industrial Directory is published by the Harris InfoSource International of Twinsburg, Ohio; 1997.

Mapquest , 2002: Online mapping, Color Air Photos and Yellow Pages taken off the Mapquest Internet site, <http://www.mapquest.com>, Mapquest , a wholly owned subsidiary of America Online, Inc. and based in Denver, CO and Mountville, PA; GlobeXplorer™ Color Air Photos of Cleveland, Ohio dated June 2002.

NORIBG, 2000: The Northern Ohio Regional Industrial Buying Guide is published by the Thomas Regional Directory Company of the Thomas Publishing Company of New York City, New York; 2000.

ODNR-DOW, 1994: Ground Water Pollution Potential of Cuyahoga County, Ohio, Report No. 4; 65 pages & map; Division of Water of the Ohio Department of Natural Resources; Columbus, Ohio; published in 1994.

ODNR–DOW, various years : Well Logs for Cuyahoga County from various years; logs were taken off the Division of Water of the Ohio Department of Natural Resources Internet site "<http://www.dnr.state.oh.us/scripts/water/welllog>"; Columbus, Ohio; 2002.

ODOT, various years: Aerial Photography from various years (1948 to 2002) of the Cleveland area; obtained from the Office of Aerial Engineering of the Ohio Department of Transportation; Columbus, Ohio.

Ohio EPA–DERR, 2002: site reconnaissance in December 17, 2002; Division of Emergency & Remedial Response (DERR) at the Central Office of the Ohio EPA; Columbus, Ohio; 2001.

Ohio EPA–GIS, 2002: Geographic Information System (GIS) maps & data; includes U.S. Census data, Sensitive Environments data & map, and Community and Non-community Public Water Supply data & maps for ground and surface waters; Division of Emergency & Remedial Response (DERR) at the Central Office of the Ohio EPA; Columbus, Ohio; 2001.

Ohio EPA–VAP, 2002: Residential and Commercial/Industrial Standards for Soil; Voluntary Action Program (VAP) of the Division of Emergency & Remedial Response (DERR) at the Central Office of the Ohio EPA; Columbus, Ohio; 2001.

Ohio EPA–DSW: 305(b) Report (Ohio EPA Regulations Volume 1 "Water Standards"); Division of Surface Water (DSW) at the Central Office of the Ohio EPA; Columbus, Ohio.

Robison, 1876: "The Only Correct Map of the City of Cleveland"; published by the Robison, Savage & Co. of 65 & 67 Frankfort St. in Cleveland, Ohio; issued in 1876; attained from the Archives & Library at Ohio Historical Society; Columbus, OH; 2002-3.

Rose, 1950: "Cleveland The Making of a City" by William Ganson Rose; published by the World Publishing Co. in Cleveland, Ohio; published in 1950; attained from the Archives & Library at Ohio Historical Society; Columbus, Ohio; 2002-3.

Sanborn, various years: Sanborn Fire Insurance Maps from various years from 1886 through 1953; attained from the On-line Research Databases of the Ohio Public Library Information Network Internet site <http://www.oplin.lib.oh.us/products/SanbornMaps/index.cfm>; Columbus, Ohio; 2002-3.

Shineldecker, 1992: Handbook of Environmental Contaminants by Chris Shineldecker; Lewis Publishers of Chelsea, Michigan; 1992.

SMD, 1948: Metal Smelters & Refiners section, Babbitt & Solder Manufacturers section, Scrap Iron & Metal Dealers section of Standard Metal Directory (SMD) directory 1948; New York City, NY; attained from the Main Library at the Ohio State University in Columbus, OH.

Thomas, 2003: The InterNet web-site for the Thomas Register is: <http://www3.thomasregister.com/>; New York City, NY.

U.S.D.A., 1980: Soil Survey of Cuyahoga County; Issued December 1980; joint project of the U.S. Department of Agriculture, the Ohio Department of Natural Resources and the Ohio Agricultural Research and Development Center.

USEPA: Guidance for Performing Preliminary Assessments Under CERCLA; Washington, D.C.; September 1991.

USEPA: Hazard Ranking System Guidance Manual; Washington, D.C.; November 1992.

USEPA, PRGs, 2000: Preliminary Remediation Goals (PRGs) for Tap Water and Residential Soil; Cancer Risk or Chronic HQ; Office of Solid Waste and Emergency Response of Region 9 of the United States Environmental Protection Agency; taken off their Internet site
<http://www.epa.gov/region09/waste/sfund/prg/index.htm>; San Francisco, CA; dated November 1, 2000.

USEPA-ERB, 1999-2000: Removal action Levels for the Emergency Removal Branch of U.S. Environmental Protection Agency in Chicago, Illinois; 1999-2000.

USGS, various years: Topographic maps available for the site include: the older, 15-minute-series, "Cleveland" & "Euclid" quadrangles both from 1903; and, the current, 7.5-minute-series quadrangles of "Cleveland South" (1963, photo-revised in 1984), "East Cleveland" (1963, PR in 1979), "Lakewood" (1963, PR in 1985), "North Olmstead" (1963, PR in 1985) and "Shaker Heights" (1963, PR in 1979); U.S. Geological Survey of the U.S. Department of the Interior; Washington, DC.

Whittlesey, 1867: "Early History of Cleveland, Ohio" by Col. Chas. Whittlesey; published by Fairbanks, Benedict & Co. in Cleveland, Ohio; published in 1867; attained from the Archives & Library at Ohio Historical Society; Columbus, Ohio; 2002-3.

LIST OF FIGURES, TABLES and ATTACHMENTS

Figure One = Site Location Map

Figure Two = 2002 Color Air Photo

Figure Three = Sanborn Maps

Figure Four = 1949 Air Photo

Figure Five = 1995 Air Photo with Sampling Locations

Table One = Field Screening Sampling Results -- Surface Soil -- XRF Metals

Attachment One = Photographic Log

Attachment Two = Site History

Attachment Three = Population Information (map & its attached table)

Attachment Four = Public Water Supply (map & its attached table)

Attachment Five = Natural Heritage Data (map & its attached table)



Possible Location of Mowery Metal
6950 Kinsman Road, Cleveland

0 950 1,900 3,800 5,700 7,600 Feet



Figure One:
Site Location Map of Mowery Metal Co.

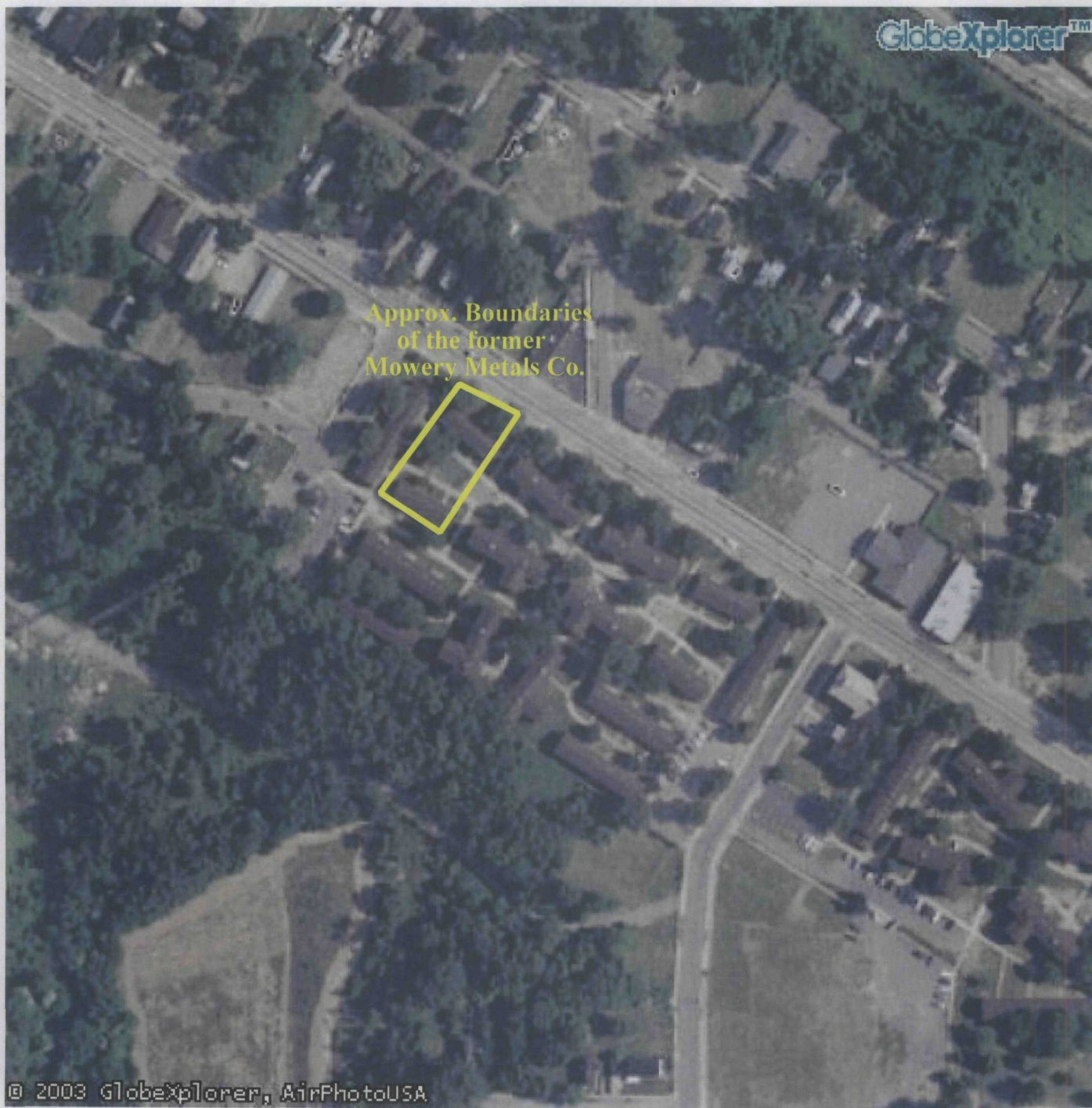
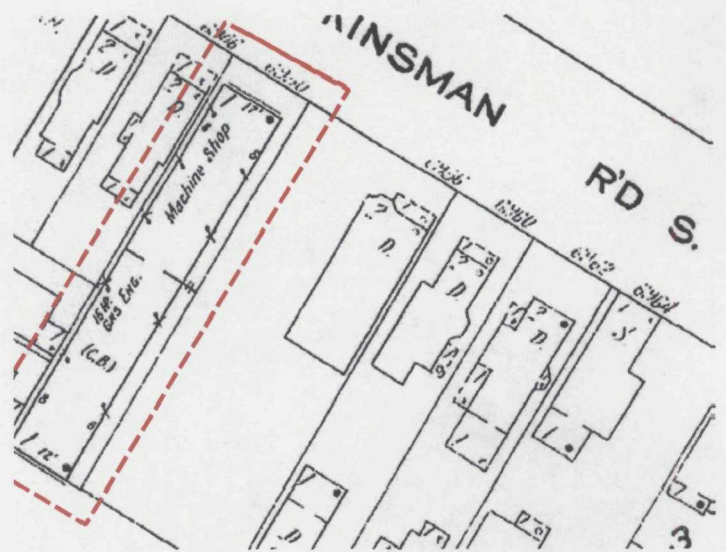
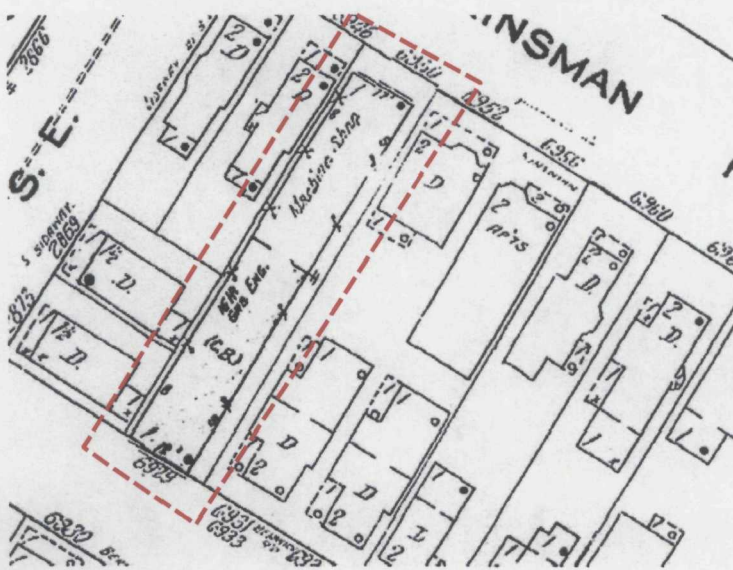


Figure 2:
2002 Color Air Photo for
Mowery Metals Co.

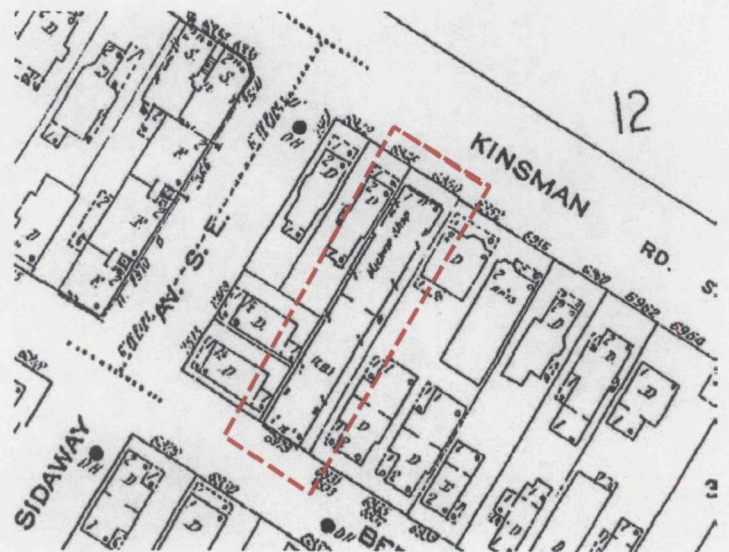
**1912-1913
Sanborn
Map**




**1912-1951
Sanborn
Map**



**1912-1952-1953
Sanborn
Map**



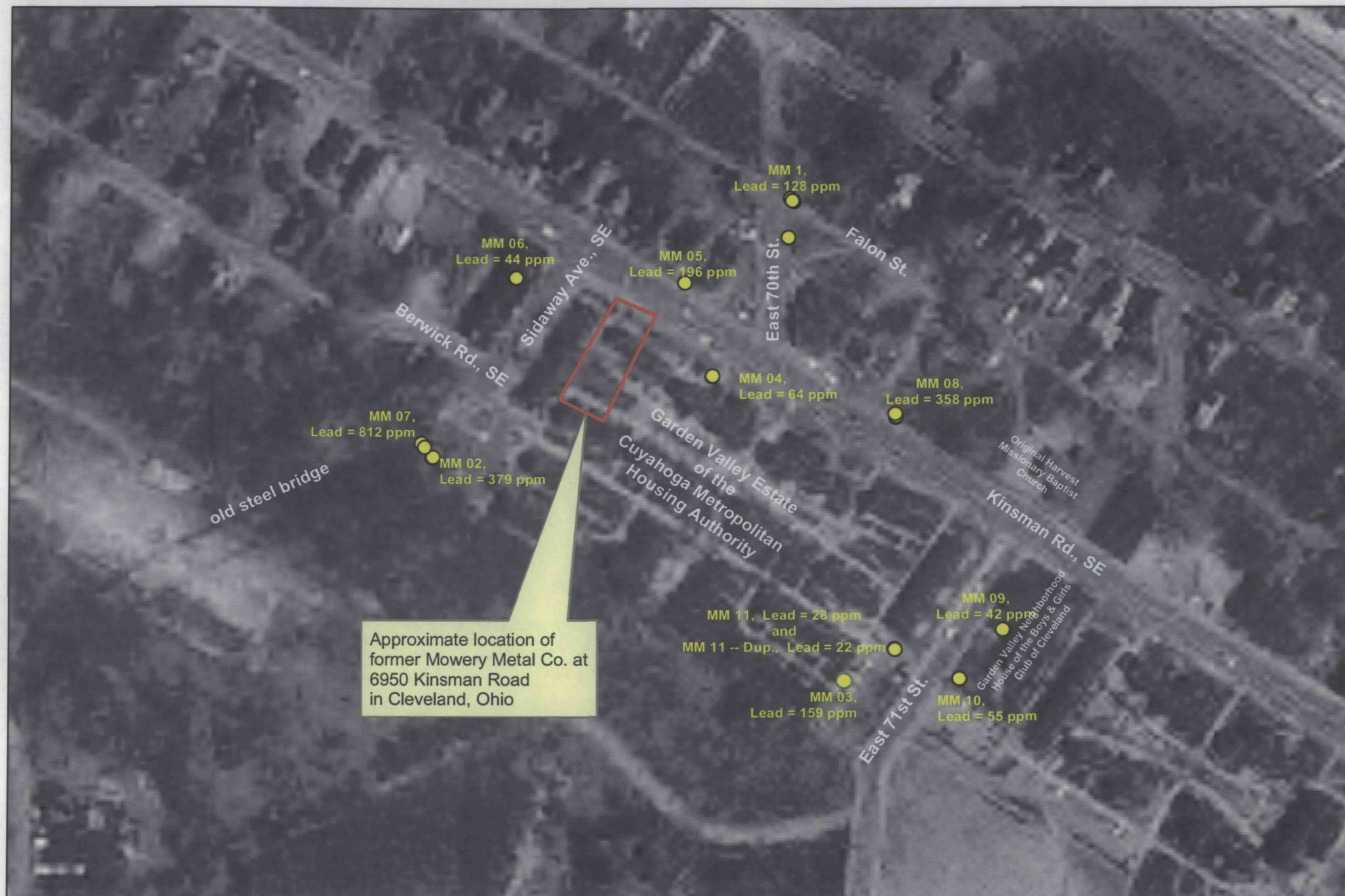
**Figure 3:
Sanborn Maps for Mowery Metals Co.**

This is a black and white aerial photograph of an industrial area in Cleveland, Ohio. The image shows a dense grid of streets and buildings. A large, dark, irregularly shaped area in the lower-left quadrant is identified as the former Mowery Metal Co. site. A white arrow points from a text box to this area. The surrounding area includes various industrial structures, parking lots, and some greenery. The overall scene depicts a typical urban industrial landscape from the late 1940s.

Approximate location of
former Mowery Metal Co. at
6950 Kinsman Road
in Cleveland, Ohio

114-V-1-40

Figure 4: 1949 Air Photo of Mowery Metal Co.



0 70 140 280 420 560 Feet

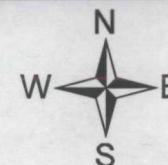


Figure Five: Mowery Metal Co. -- 1995 Air Photo with Sampling Locations

**Table 1: Mowery Metals Co. --
XRF Field Screening and Lab Sampling Results - Soil**

SITE NAME ==>	MOWERY METAL	MOWERY METAL	MOWERY METAL	MOWERY METAL	MOWERY METAL	MOWERY METAL	MOWERY METAL	MOWERY METAL	MOWERY METAL	MOWERY METAL	MOWERY METAL	MOWERY METAL
SITE ADDRESS ==>	6950 Kinsman Rd.	6950 Kinsman Rd.	6950 Kinsman Rd.	6950 Kinsman Rd.	6950 Kinsman Rd.	6950 Kinsman Rd.	6950 Kinsman Rd.	6950 Kinsman Rd.	6950 Kinsman Rd.	6950 Kinsman Rd.	6950 Kinsman Rd.	6950 Kinsman Rd.
SAMPLE LOCATION ==>	Off-Site; NE. of Site; Falcon; NE @ E. 70th	Off-Site; NW. of Site; S. of Old Bridge	Off-Site; SE. of Site; Pub. Housing; 71th; SW	Off-Site; E. of Site; Kinsman; NW @ 70th	Off-Site; N. of Site; Kinsman; NW @ 70th	Off-Site; NW. of Site; Kinsman; NW @ Sideway	Off-Site; N. of Site; S. of Old Bridge	Off-Site; N. of Site; S. of Old Bridge	Off-Site; E. of Site; 7181 Kinsman; SW corner	Off-Site; SE. of Site; 7108 Kinsman; Spaceship	Off-Site; SE. of Site; 7100 Kinsman; SW Yard	Off-Site; SE. of Site; Pub. Housing; 71th; NE end
SAMPLE ID # ==>	MM - 1	MM - 2	MM - 3	MM - 4	MM - 5	MM - 6	MM - 7	MM - 7 -- LAB	MM - 8	MM - 9	MM - 10	MM - 11
DATE ==>	Dec. 17, 2002	Dec. 17, 2002	Dec. 17, 2002	06/09/03, 16:00	06/09/03, 16:10	06/09/03, 16:15	06/09/03, 16:30	06/11/03, 14:45	06/09/03, 16:35	06/09/03, 16:45	06/09/03, 16:50	06/09/03, 17:00
QA / QC INFO ==>	Residential	Res. & Pub. Housing	Public Housing	Public Housing	Public Housing	Residential	Res. & Pub. Housing	LAB RESULTS	O.H.M.B. Church	Boys & Girls Club	Boys & Girls Club	Public Housing
XRF ANALYTE	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg
potassium (K)	13380	14660	14740	----	----	----	----	----	----	----	----	----
calcium (Ca)	8130	12890	8890	----	----	----	----	----	----	----	----	----
titanium (Ti)	3030	4260	3910	----	----	----	----	----	----	----	----	----
chromium (Cr)*	ND	ND	ND	ND	200	ND	540 / 203	32.8	ND	ND	ND	ND
manganese (Mn)	----	----	----	----	----	----	----	----	----	----	----	----
iron (Fe)	24580	36520	30150	----	----	----	----	----	----	----	----	----
cobalt (Co)	----	----	----	----	----	----	----	----	----	----	----	----
nickel (Ni)	----	----	----	----	----	----	----	----	----	----	----	----
copper (Cu)	----	----	----	----	----	----	----	----	----	----	----	----
zinc (Zn)	----	480	----	----	----	----	----	----	----	----	----	----
arsenic (As)*	ND	ND	ND	34 / 12	ND	30 / 11.5	ND	8.79 J	31 / 17	ND	30 / 11	26 / 10
selenium (Se)*	ND	ND	ND	12.1 / 8.7	ND	20.4 / 9.1	11.0 / 11.0	ND	ND	11.3 / 8.4	25 / 9	ND
strontium (Sr)	121	138	----	----	----	----	----	----	----	----	----	----
zirconium (Zr)	251	293	----	----	----	----	----	----	----	----	----	----
molybdenum (Mo)	----	----	----	----	----	----	----	----	----	----	----	----
mercury (Hg)*	ND	ND	ND	ND	ND	ND	ND	----	41 / 20	34 / 18	ND	29 / 18
lead (Pb)*	128	379	159	65	196	44	812	384	358	42	55	28
rubidium (Rb)	----	99	----	----	----	----	----	----	----	----	----	----
cadmium (Cd)*	ND	ND	ND	ND	ND	71 / 53	ND	3.72	ND	ND	ND	ND
tin (Sn)	----	----	----	----	----	----	----	----	----	----	----	----
antimony (Sb)	----	----	----	----	----	----	----	----	----	----	----	----
barium (Ba)*	444	540	415	475	526	652	213	133	464	367	463	517
silver (Ag)*	ND	ND	ND	50 / 30	99 / 32	94 / 32	68 / 29	0.915 J	80 / 32	72 / 30	91 / 32	ND
uranium (U)	----	----	----	----	----	----	----	----	----	----	----	----
thorium (Th)	----	----	----	----	----	----	----	----	----	----	----	----
aluminum (Al)	----	----	----	----	----	----	----	4140	----	----	----	----

NOTES: "74 / 40.8" = First number (74) is the result / Second number (40.8) is the standard deviation

ND = Non-Detect; C = Carcinogenic; NC = Carcinogenic

---- = Below significant detection limits of XRF; or, not analyzed for.

= Region IX PRGs for Residential Soil; Cancer Risk or Chronic HQ

= Nearest available county with data is Medina County

* = "RCRA-Eight" metals = arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

** = Mercury was not analyzed by the lab, because XRF samples exceeded the 28-day holding time before they were sent to Kemron.

**Table 1: Mowery Metals Co. --
XRF Field Screening and Lab Sampling Results - Soil**

SITE NAME ==>	MOWERY METAL										
SITE ADDRESS ==>	6950 Kinsman Rd.										
SAMPLE LOCATION ==>	Off-Site; SE. of Site; Pub. Housing, 71th; NE end										
SAMPLE ID # ==>	MM - 11 - DUP	BLANK #1	BLANK #2	BLANK #3							
DATE ==>	06/09/03, 17:00	6/23/2003	7/2/2003	7/15/2003							
QA / QC INFO ==>	REPLICATE	CALIBRATION	CALIBRATION	CALIBRATION							
					USEPA	USEPA					
					P.R.G.#	P.R.G.#	USEPA	USEPA	V.A.P.	V.A.P.	Average
					Values	Values	R.A.L.s for	R.A.L.s	Standards for	Standards for	Values
					for	for	Commercial /	for	Commercial /	for	for
					Industrial	Residential	Industrial	Residential	Industrial	Residential	Medina##
					Soil	Soil	Values; 1997	Values; 1997	Land Use	Land Use	County

XRF ANALYTE	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg
potassium (K)	----	----	----	----	----	----	----	----	----	----	----
calcium (Ca)	----	----	----	----	----	----	----	----	----	----	----
titanium (Ti)	----	----	----	----	----	----	----	----	----	----	----
chromium (Cr)*	ND	----	----	----	450 (total)	210 (total)	1000000	780000	1000000 (III)	120000	7000
manganese (Mn)	----	0.002	0.002	0.003	32000	1800	470000	18000	----	----	----
iron (Fe)	----	1.007	0.996	1.000	100000	23000	1000000	230000	----	----	----
cobalt (Co)	----	0.004	0.002	0.003	100000	4700	1000000	47000	40000	1400	----
nickel (Ni)	----	----	----	----	41000	1600	410000	16000	57000	1500	20000
copper (Cu)	----	----	----	----	76000	2900	820000	31000	----	----	17000
zinc (Zn)	----	----	----	----	100000	23000	1000000	230000	900000	23000	75000
arsenic (As)*	23 / 10	----	----	----	440-NC or 2.7-C	22-NC or 39-C	380-C or 6100-NC	43-C or 230-NC	80	6.8	----
selenium (Se)*	ND	----	----	----	10000	390	100000	3900	15000	390	----
strontium (Sr)	----	----	----	----	100000	47000	1000000	470000	----	----	----
zirconium (Zr)	----	----	----	----	----	----	----	----	----	----	----
molybdenum (Mo)	----	----	----	----	10000	390	100000	3900	----	----	----
mercury (Hg)*	30 / 19	----	----	----	610	23	6100	230	300	7.8	----
lead (Pb)*	22 / 10	----	----	----	750	400	500-1000	----	1800	400	23000
rubidium (Rb)	----	----	----	----	----	----	----	----	----	----	----
cadmium (Cd)*	ND	----	----	----	810	37	10000	390	770	35	200
tin (Sn)	----	----	----	----	100000	47000	1000000	470000	----	----	----
antimony (Sb)	----	----	----	----	820	31	8200	310	1200	31	----
barium (Ba)*	544	----	----	----	100000	5400	1000000	55000	200000	5400	----
silver (Ag)*	ND	----	----	----	10000	390	100000	3900	15000	390	----
uranium (U)	----	----	----	----	410	16	61000	2300	----	----	----
thorium (Th)	----	----	----	----	----	----	----	----	----	----	----
aluminum (Al)	----	----	----	----	100000	76000	1000000	780000	1000000	75000	----

NOTES: "74 / 40.8" = First number (74) is the result / Second number (40.8) is the standard deviation

ND = Non-Detect; C = Carcinogenic; NC = Carcinogenic

---- = Below significant detection limits of XRF; or, not analyzed for.

= Region IX PRGs for Residential Soil; Cancer Risk or Chronic HQ

= Nearest available county with data is Medina County

* = "RCRA-Eight" metals = arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

** = Mercury was not analyzed by the lab, because XRF samples exceeded the 28-day holding time before they were sent to Kemron.



Mowery Metal Co. – December 17, 2002 Recon – 6950 Kinsman Road; apartment building in center right of photo is approx. location of former Mowery Metal bldg.; property of Cleveland Public Housing Authority; Looking southwest from Kinsman Rd. & E. 70th St.; Sample MM-04 collected along fence across street



Mowery Metal Co. – June 9-11, 2003 Sampling Event – 6950 Kinsman Road; apartment building in right center of photo currently has the address of “6950 Kinsman Road”; Looking southeast from vacant lot across Sidaway Ave., SE (bottom); Kinsman Rd. (left); Sample MM-06 collected in lot



Mowery Metal Co. – June 9-11, 2003 Sampling Event – 6950 Kinsman Road; apartment building in right center of photo currently has the address of “6950 Kinsman Road”; Looking west from Kinsman Rd. (bottom); sign identifies the complex as the Green Valley Estates of the Cleveland Public Housing Authority



Mowery Metal Co. – December 17, 2002 Recon – 6950 Kinsman Road; Looking northeast from the intersection of Sidaway Ave. & Berwick Rd. towards former Mowery Metals site



Mowery Metal Co. – December 17, 2002 Recon – 6950 Kinsman Road; Looking west from Sidaway Ave. and Berwick Rd. at abandoned industrial bridge across valley of Kingsbury Run; Sample MM-02 to left of bridge and MM-07 to right of it



Mowery Metal Co. – June 9-11, 2003 Sampling Event – 6950 Kinsman Road; current apartment building in center right of photo has address of 6950 Kinsman Road and is owned by Cleveland Public Housing Authority; Looking southwest from Kinsman Road; Sample MM-11 near garbage dumpster and MM-03 near blue car.



Mowery Metal Co. – June 9-11, 2003 Sampling Event – 6950 Kinsman Road; Looking SW from Boys & Girls Club playground across E. 71st St. at Cleveland Public Housing Authority apts.; telephone poles in photo center are along former course of Berwick Rd.; sample MM-09 under “spaceship” in bottom right of photo



Mowery Metal Co. – June 9-11, 2003 Sampling Event – 6950 Kinsman Road; from Cleveland Public Housing Authority apts.; Looking south across E. 71st St.; Sample MM-11 was from dirt in this well-trafficked area

Attachment Two, Mowery Metal Co. Site History

Mowery Metal Co. -- Babbit Metal and Solder Smelters and/or Manufacturers
6950 Kinsman Road, SE
Cleveland, Ohio
44104-3933

Source = Cleveland Directories, 1852-1974
Source = SANBORN Maps, 1867-1970
Source = Cuyahoga County Auditor , 2002-3
Source = Yellow Pages from <http://yp.mapquest.com> or <http://yp.yahoo.com>; 2002-3
Source = 1948 & 1964 Standard Metal Directories
Source = 1950 Standard Metal Directory, from Eckel 2003

1837-8, 1846-9, 1852-3, 1864-5, 1872-3, 1881 Cleveland Directories --
Mowery Metal Co. -- NOT MENTIONED

1901 Cleveland Directory -- **Mowery Metal Co.** -- NOT MENTIONED

Leroy D. Mowery
"Ironworker"

1902-3 Cleveland Directory -- **Mowery Metal Co.** -- NOT MENTIONED

J. Mowery
"Tinner" (Websters Dictionary, 1988: "Tinner" = a tin miner or tinsmith)

1908 & 1917 Cleveland Directories -- **Mowery Metal Co.** -- NOT MENTIONED

1927 Cleveland Directory -- **Mowery Metal Co.** -- Founded in 1927 (per 1928 CDC)

1928 Cleveland Directory -- **Mowery Metal Co.** -- COMPANY NAME VERIFIED

_____ = address not given
LeRoy D. (Matilda) Mowery = President
"cap" (capital?) = \$10,000.00
"inc." (incorporated?) in 1927
T. R. Stetler = Secretary - Treasurer
(Page 1 of 3)

1930, 1932, 1935 & 1937 Cleveland Directories -- **Mowery Metal Co.**

6950 Kinsman Road -- COMPANY ADDRESS VERIFIED
LeRoy D. (Matilda) Mowery = President
Harry A. Favor = Vice President
T. (Theo.) R. Stetler = Secretary - Treasurer
"Metal Specialists"

1948 Cleveland Directory -- **Mowery Metal Co.**
"The LeRoy D. Mowery Metal Co."
6950 Kinsman Road
LeRoy D. Mowery = President
Gilbert L. Mowery = Secretary - Treasurer
"Sheet Metal Products"

1948 Standard Metal Directory -- **Mowery Metal Co.**
6950 Kinsman Road; Cleveland, Ohio
"Scrap Iron & Metal Dealers"
"Specializes in Scrap"
"Babbitt & Solder Manufacturers"

1950 Standard Metal Directory -- **Mowery Metal Co.** -- 6950 Kinsman Road
"Babbit Metal and Solder Smelters and/or Manufacturers"

1951 SANBORN MAPS -- **Mowery Metal Co.** (Re-published from 1912)
-- Not listed specifically as Mowery Metal
Referenced as "machine shop"
The building is different than surrounding residences; elongated;
stretches the whole block from Kinsman to Berwick Road
Near Sidaway Ave., SE

1953 & 1956 Cleveland Directories -- **Mowery Metal Co.**
6950 Kinsman Road
LeRoy D. (Matilda a.k.a. Tillie) Mowery = President
Gilbert L. (Kath. H.) Mowery = Secretary - Treasurer

1956 Cuyahoga County Auditor -- **Mowery Metal Co.** -- Not referenced

Cleveland Metropolitan Housing Authority
6950 Kinsman Road
-- property was transferred on August 23, 1956 to
the government (Cleveland Metropolitan Housing Authority)

1958 Cleveland Directory -- **Mowery Metal Co.** -- Not referenced

James B. Brown -- Residential
6947 Kinsman Road -- No listings specifically for 6950 Kinsman

1961, 1966 & 1974 Cleveland Directories -- **Mowery Metal Co.** -- Not referenced

James R. Brown = Residential
6950 Kinsman Road
Phone # = (216)341-5643
Sidaway Ave., SE intersects at 6940 Kinsman

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CURRENT PROPERTY OWNERS (Source = Cuyahoga County Auditor):

Mowery Metal Co.

6950 Kinsman Road; Cleveland, Ohio 44104-3933
Parcel # = 125-18-001; 5.27 acres; 6950 Kinsman is reported under 6942 Kinsman
Current = **Cleveland Metro(politan) Housing Authority** = 6942 Kinsman; 44127?

Cleveland Building & Housing
601 Lakeside Ave E # 320, Cleveland, OH 44114
Phone: (216) 664-2282 [Source = <http://yp.yahoo.com> (Yellow Pages)]

Tenant = James R Brown = (216)341-5643;
6950 Kinsman Rd.; Cleveland, OH 44104-3933
[Source = <http://yp.yahoo.com> (Yellow Pages)]

Date Transferred = **08/23/56**; Tax Exempt -- Government
Recent Past Owner = No Info Available

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ADJOINING TENANTS Source = <http://yp.yahoo.com> (Yellow Pages)]

Blevins, Iesha

6946 Kinsman Rd.; Cleveland, OH; 44104
(216) 441-7928

McKenzie, Dennis

6952 Kinsman Rd.; Cleveland, OH; 44104
(216) 641-8293

Attachment 3:
Population Information for
Mowery Metal Co.

Page 1 of 1

RADIUS	TOTAL	WHITE	BLACK	INDIAN	ASIAN	HAWAII_PAC	OTHER	HOUSING
3.00 - 4.00	115787	42449	64325	342	1266	27	7378	44670
2.00 - 3.00	96178	27881	61655	199	3058	28	3358	39316
1.00 - 2.00	52800	11732	39431	111	160	18	1348	19908
0.50 - 1.00	8962	2142	6450	24	14	11	322	3333
0.25 - 0.50	2852	295	2497	4	1	1	54	1033
0.00 - 0.25	742	37	693	0	0	0	13	265
TOTALS	277321	84536	175051	680	4499	85	12473	108525

Note: 12,556 people within a one-mile radius of the site.

OhioEPA

Division of Emergency & Remedial Response
GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

Cuyahoga County Mowery Metal



- ⊕ Site
- T School
- ⛔ Hospital
- Public Surface Water Systems
- Public Ground Water Systems
- ★ US Endangered/Threatened Species
- ★ Ohio Endangered/Threatened Species

- Wetland Area
- Lakes & Ponds
- Wellhead Protection Area
- Limit of Radius From Site
- County Boundaries

- Rivers & Streams
- Railroad
- State and Federal Highways
- Local Roads
- Municipal Roads



2 0 2 Miles

Attachment 4:
Public Ground Water and
Surface Water Systems Information for
Mowery Metal Co.

Public Surface Water Systems

ID	PWS_ID	SYS_SOURCE	SYS_TYPE	NAME	ADDRESS	CITY	STATE	DISTANCE	POPULATION
1	1800503	Purchased Surface Water	Community	EAST CLEVELAND,CITY OF	14340 EUCLID AVENUE	EAST CLEVELAND	OH	4.1421	33096
2	1800403	Purchased Surface Water	Community	CLEVELAND HEIGHTS,CITY OF	40 SEVERENCE CIRCLE	CLEVELAND HEIGHTS	OH	4.1421	54000
3	1800311	Surface Water	Community	CLEVELAND,CITY OF-BALDWIN	11216 FAIRHILL BLVD.	CLEVELAND	OH	7.4419	424027
4	1801003	Purchased Surface Water	Community	LAKEWOOD,CITY OF	12805 DETROIT AVENUE	LAKEWOOD	OH	8.1538	60000
5	1800003	Purchased Surface Water	Community	BEDFORD, CITY OF	65 COLUMBUS ROAD	BEDFORD	OH	8.4548	15000
6	1800331	Surface Water	Community	CLEVELAND,CITY OF-MORGAN	1245 WEST 45TH STREET	CLEVELAND	OH	9.1446	352888
7	1800341	Surface Water	Community	CLEVELAND,CITY OF-NOTTIN	1300 CHARDON ROAD	CLEVELAND	OH	9.8335	326846
8	1800321	Surface Water	Community	CLEVELAND,CITY OF-CROWN	955 CLAGUE ROAD	WESTLAKE	OH	12.7461	198665
9	1800111	Surface Water	Community	BEREA, CITY OF	11 BEREA COMMONS	BEREA	OH	13.7121	19056

Public Ground Water Systems

ID	PWS_ID	SYS_TYPE	NAME	ADDRESS	CITY	STATE	DISTANCE	POPULATION
0	0	Non-Community/Non-Transient	NONE	NONE	NONE	NO	0	0

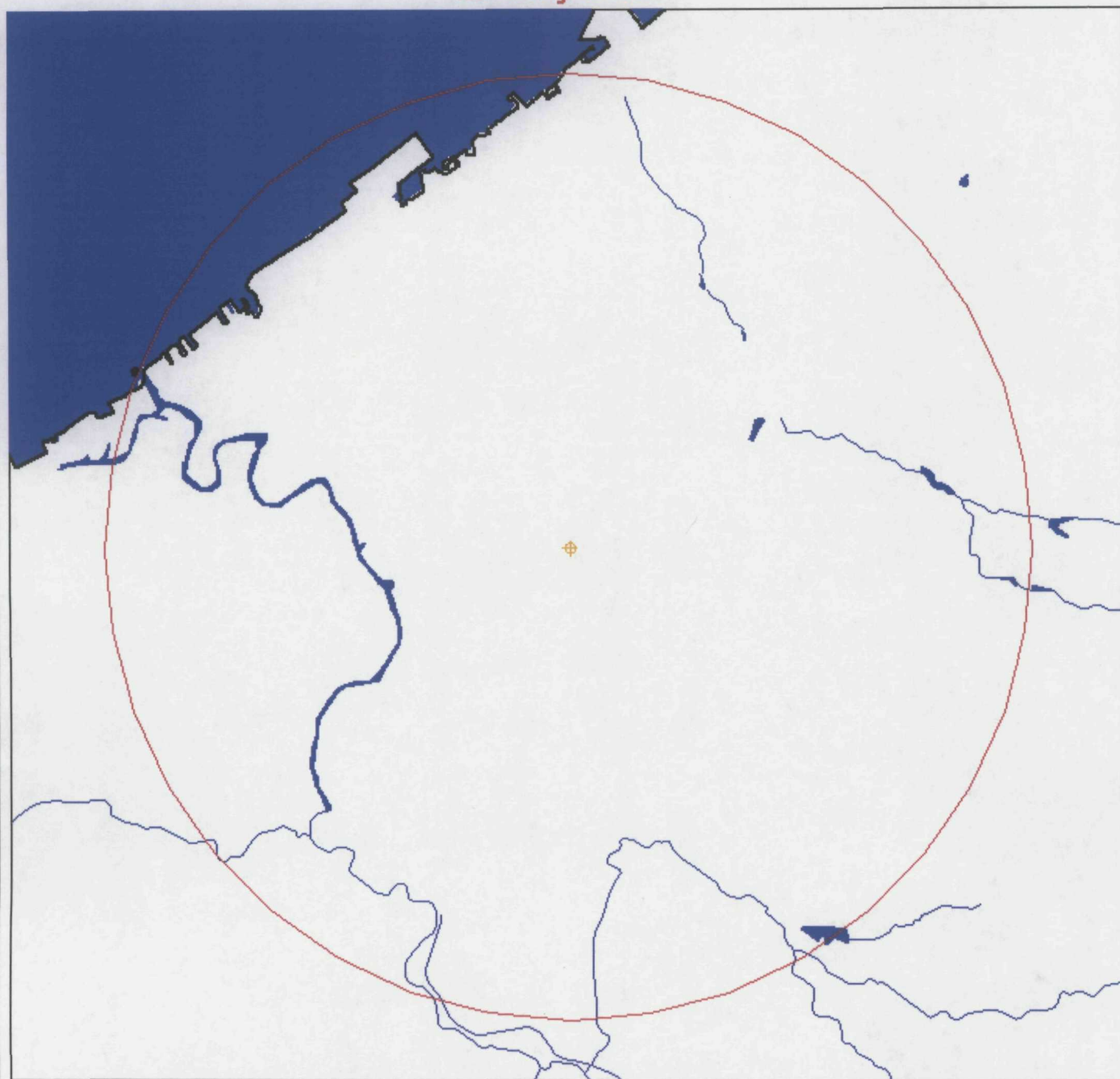


Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

PUBLIC GROUND WATER SYSTEMS

Mowery Metal



- Site
- Public Ground Water Systems
- Community
 - Non-Community/Transient
 - Non-Community/Non-Transient

- Rivers & Streams
- Wellhead Protection Area
- Lakes & Ponds
- Limit of Radius From Site
- County Boundaries

1 0 1 Miles



Attachment 5:
Natural Heritage Data for
Mowery Metal Co.

Page 1 of 1

ID	STATUS	DISTANCE	SCI_NAME	COM_NAME	ID
1	State Threatened	2.0908	HIERACIUM CANADENSE	CANADA HAWKWEED	1
2	State Threatened	3.358	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	2
3	State Endangered	3.9238	MONARDA PUNCTATA	DOTTED HORSEMINT	3
4	State Threatened	4.5097	HIERACIUM CANADENSE	CANADA HAWKWEED	4
5	State Threatened	4.6608	HIERACIUM CANADENSE	CANADA HAWKWEED	5
6	State Threatened	6.6023	AMMOPHILA BREVLIGULATA	AMERICAN BEACH GRASS	6
7	State Threatened	8.0029	SOLIDAGO SQUARROSA	LEAFY GOLDENROD	7
8	State Threatened	8.0029	ELYMUS TRACHYCAULUS	BEARDED WHEAT GRASS	8
9	State Endangered	8.3124	SOLIDAGO PUBERULA	DUSTY GOLDENROD	9
10	State Endangered	8.4057	JUNIPERUS COMMUNIS	GROUND JUNIPER	10
11	State Threatened	8.4753	SOLIDAGO SQUARROSA	LEAFY GOLDENROD	11
12	State Endangered	8.6345	JUNIPERUS COMMUNIS	GROUND JUNIPER	12
13	State Threatened	9.3869	SAGITTARIA RIGIDA	DEER'S-TONGUE ARROWHEAD	13
14	State Threatened	9.5865	SAGITTARIA RIGIDA	DEER'S-TONGUE ARROWHEAD	14
15	State Endangered	9.8708	NYCTANASSA VIOLACEA	YELLOW-CROWNED NIGHT-HERON	15
16	State Endangered	10.1611	SOLIDAGO PUBERULA	DUSTY GOLDENROD	16
17	State Threatened	11.0871	LECHEA INTERMEDIA	ROUND-FRUITED PINWEED	17
18	State Threatened	11.2028	SOLIDAGO SQUARROSA	LEAFY GOLDENROD	18
19	State Endangered	11.4867	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	19
20	State Endangered	11.5553	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	20
21	State Endangered	11.708	JUNCO HYEMALIS	DARK-EYED JUNCO	21
22	State Endangered	11.8443	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	22
23	State Endangered	11.8778	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	23
24	State Endangered	11.8854	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	24
25	State Endangered	12.0247	JUNCO HYEMALIS	DARK-EYED JUNCO	25
26	State Endangered	12.0743	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	26
27	State Endangered	12.2243	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	27
28	State Endangered	12.2544	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	28
29	Federally Endangered	12.2646	MYOTIS SODALIS	INDIANA BAT	29
30	State Endangered	12.2745	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	30
31	State Endangered	12.364	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	31
32	State Threatened	12.4587	EPILOBIUM STRICTUM	SIMPLE WILLOW-HERB	32
33	State Threatened	12.5619	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	33
34	State Endangered	12.6891	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	34
35	State Threatened	12.7247	MELAMPYRUM LINEARE	COW-WHEAT	35
36	State Endangered	12.7288	JUNCO HYEMALIS	DARK-EYED JUNCO	36
37	State Endangered	12.748	VERMIVORA CHRYSOPTERA	GOLDEN-WINGED WARBLER	37
38	State Endangered	12.8326	JUNCUS PLATYPHYLLUS	FLAT-LEAVED RUSH	38
39	State Endangered	12.8967	JUNCO HYEMALIS	DARK-EYED JUNCO	39
40	State Endangered	13.0725	TROGLODYTES TROGLODYTES	WINTER WREN	40
41	State Endangered	13.109	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	41
42	State Threatened	13.1138	NOTROPIS DORSALIS	BIGMOUTH SHINER	42
43	State Endangered	13.5692	THRYOMANES BEWICKII	BEWICK'S WREN	43
44	State Endangered	13.5776	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	44
45	State Threatened	13.8445	PRENANTHES CREPIDINEA	NODDING RATTLESNAKE-ROOT	45
46	State Threatened	13.9014	PRENANTHES CREPIDINEA	NODDING RATTLESNAKE-ROOT	46
47	State Endangered	13.9906	JUNIPERUS COMMUNIS	GROUND JUNIPER	47
48	State Threatened	14.031	CAREX PALLESCENS	PALE SEDGE	48
49	State Threatened	14.2811	NOTROPIS DORSALIS	BIGMOUTH SHINER	49
50	State Threatened	14.3736	NOTROPIS DORSALIS	BIGMOUTH SHINER	50
51	State Endangered	14.7056	CAREX ARCTATA	DROOPING WOOD SEDGE	51



Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 15-MILE RADIUS MAP

NATURAL HERITAGE DATA

Mowery Metal



- Site
- US Endangered/Threatened Species
- Ohio Endangered/Threatened Species

Public Surface Water Systems

- Community
- Non-Community/Transient
- Non-Community/Non-Transient

- Rivers & Streams
- Wetland Area
- Lakes & Ponds
- Limit of Radius From Site
- County Boundaries

4 0 4 8 Miles

